# REMARKS

Independent claims 1 and 15 have been amended to include disposing the gas egress means in a vertically extending space in the tower (see page 5, lines 18-21 of the specification, and figure 1). Further, claims 1 and 15 have been amended to include configuring the gas egress means to prevent water from entering the gas egress end 63 of the upward extending conduit section 68, and configuring the gas egress means to prevent the impedance of gas emanating from the gas egress end 63 (see page 7, lines 5-31, page 8, lines 1-3, and figures 2 and 4a-c). New Independent claim 20 was added to further explain the invention as including a system capable of heating liquids. The system of claim 20 includes means for providing heated gas to a vertically extending space in a tower, means for preventing liquid from entering the gas providing means, and means for preventing the impedance of heated gas emanating from the heated gas providing means.

Lutzen et al. -U.S. Patent No. 4,753,220 ("Lutzen") discloses a water heater that includes a plurality of heat exchange bodies 22 that facilitate the heating of the water. Referring to figures 1 and 4 of the Lutzen patent, the bodies 22 fill most of a tubular column 12, and in both figures the combustion chamber 40 and 40' are below the column 12. In figure 1, a horizontal chamber 40 provides heated gas to a bottom portion of the column 12. The heated gas rises a relatively small distance to engage the bottom of the heat exchange bodies 22. In figure 4, a vertical upper open end of the combustion chamber portion 62 inserts into a conical shield 64, the shield 64 prevents water from flowing into the open end which supplies heated gas to the column 12. Heated gas is discharged into the conical shield 64 from the open end of the chamber portion 62. The heated gas then flows downward and around an edge portion of the shield. The heated gas then rises a relatively small distance to engage the bottom of the heat exchange bodies 22.

Lutzen engages the heat exchange bodies 22 with pressurized heated gas and water thereby indirectly heating water, irrespective of the patent being titled "Direct Contact Water Heater." The bodies 22 impede the rising heated gas thereby reducing the quantity of heat that is ultimately transferred to the falling water, resulting in wasted energy and more expensive to indirectly heat a predetermined quantity of water in a given period of time. Further, the combustion 40 of figure 1 initially directs heated gas horizontally, thus increasing the impedance of heated gas to the column 12. Also, the conical shield 64 of figure 4 increases the impedance of heated gas from the vertical upper end of the combustion chamber portion 62 because of the small volume of the shield 64 relative to the large volume of the upper end of the combustion chamber portion 62. Lutzen is unconcerned with impeding heated gas flow. Lutzen does not disclose, teach or suggest reducing the impedance of heated gas by injecting the heated gas into a vertical extending space in the column 12. Further, Lutzen does not disclose, teach or suggest reducing the impedance of heated gas by using a shield 64 or cap that is configured to reduce impedance by designing the shield to be larger in volume than the heated gas conduit inserted therein, or by designing the shield to be vertically and distally separated from the open end of the combustion chamber portion 62.

Referring now to U.S. Patent No. 656,813 ("Cohen"), as in Lutzen, no disclosure, teaching or suggestion is made pertaining to the reduction of the impedance of heated gas to during the heating of water in a water heater. It is respectfully submitted that amended claims 1 and 15, and the dependent claims (3,5,6,7,8,11and 17) corresponding thereto, and new claim 20 overcome a 35 U.S.C. 102(b) rejection as being anticipated by Lutzen. Further, it is respectfully submitted that claims 2, 4, 9, 10, 12, 13, 14 and 16 overcome a 35 U.S.C. 103(a) rejection as being unpatentable over Lutzen in view of Cohen.

Referring now to U.S. Patent No. 5,799,620 ("Cleer"), a boiler is depicted in figure 2 having a hot gas exhaust conduit 22 that directs hot gases beneath a liquid level of a pool 27 via opening 23, or a hot gas exhaust conduit 22' that directs hot gases upon the surface of the liquid pool 27 via opening 23' (see figures 2 and 3). Cleer does not disclose, teach or suggest reducing the impedance of heated gas emanating from an open upper end of a vertical conduit. It is respectfully submitted that amended claim 15 and dependent claims 17-19 overcome a 35 U.S.C. 102(b) rejection as being anticipated by Cleer.

It is respectfully submitted that all independent claims and the dependent claims corresponding thereto are now of proper form and scope for allowance, which action is respectfully requested. If the Examiner upon consideration of the forgoing finds that a telephone interview would be helpful in expediting allowance of the present application, he is respectfully urged to call the applicant's undersigned attorney.

Respectfully Submitted,
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